



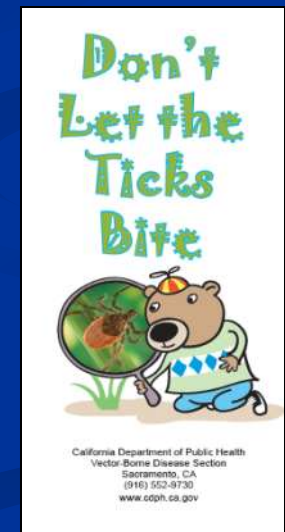
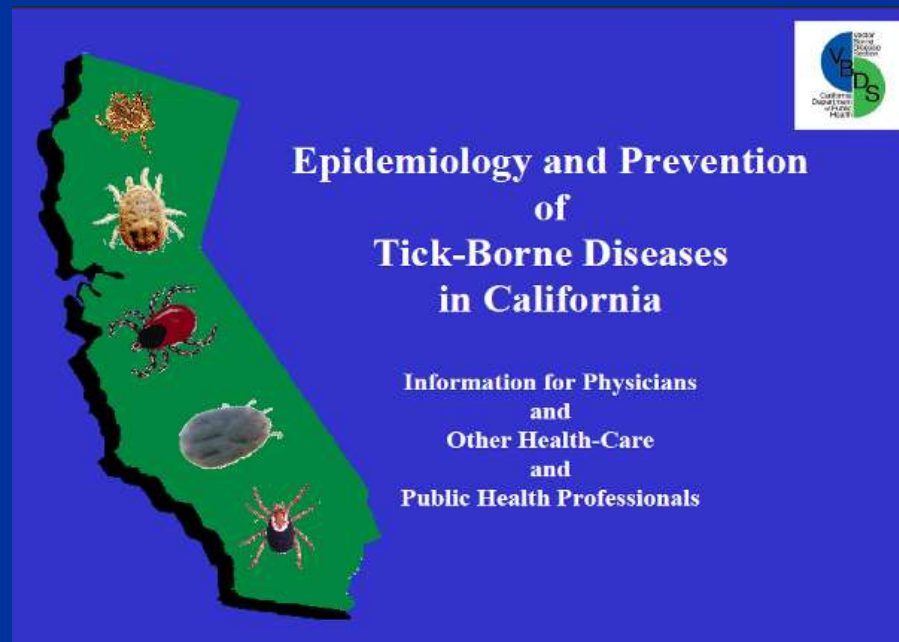
Lyme Disease Advisory Committee

Anne M. Kjemtrup, DVM, MPVM, PhD

March 10, 2011

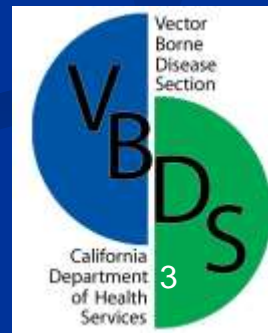


Tick-borne disease education



California Department of Public Health Vector-Borne Disease Section Lyme and Other Tick-Borne Disease Activity Update

- Public health education accomplishments
November 2010 – March 2011
- Projects for 2011
- Update on surveillance activities



Core Education Program



Public Outreach



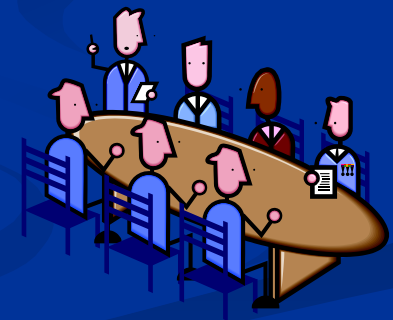
Information Broad
Distribution



School-age programs



Presentations to
medical/local agencies



Twice a year LDAC
meetings

General Public



Education Activities Nov 2010 – Mar 2011

General Population



- Winter Facebook Posting
- Nov 22, 2010
- Text and photos
- Link to CDPH – tick-borne disease page

Education Activities Nov 2010 – Mar 2011

General Population



Socks up high is THE style when hiking through tall grass. More ways to prevent tick bites: <http://bit.ly/dlZAEd>

10:13 AM Dec 10th via SocialOomph

Ticks in winter? In CA, you bet! Find out more. Go to <http://bit.ly/dlZAEd>.

11:45 AM Dec 9th via SocialOomph

It doesn't take wizard school to know how to avoid ticks- CDPH offers some easy tricks: <http://bit.ly/dlZAEd>

10:13 AM Dec 3rd via SocialOomph

Enjoy a tick-free year outdoors by learning how to avoid ticks: <http://bit.ly/dlZAEd>.

11:27 AM Dec 30th, 2010 via SocialOomph

Check yourself + pets for ticks after outdoor activities. <http://bit.ly/9e3bSn>

1:35 PM Feb 18th via SocialOomph

Show others how to keep ticks from biting. Enter our Tick-bite Prevention Video Public Service Announcement Contest.

<http://bit.ly/f12QUO>

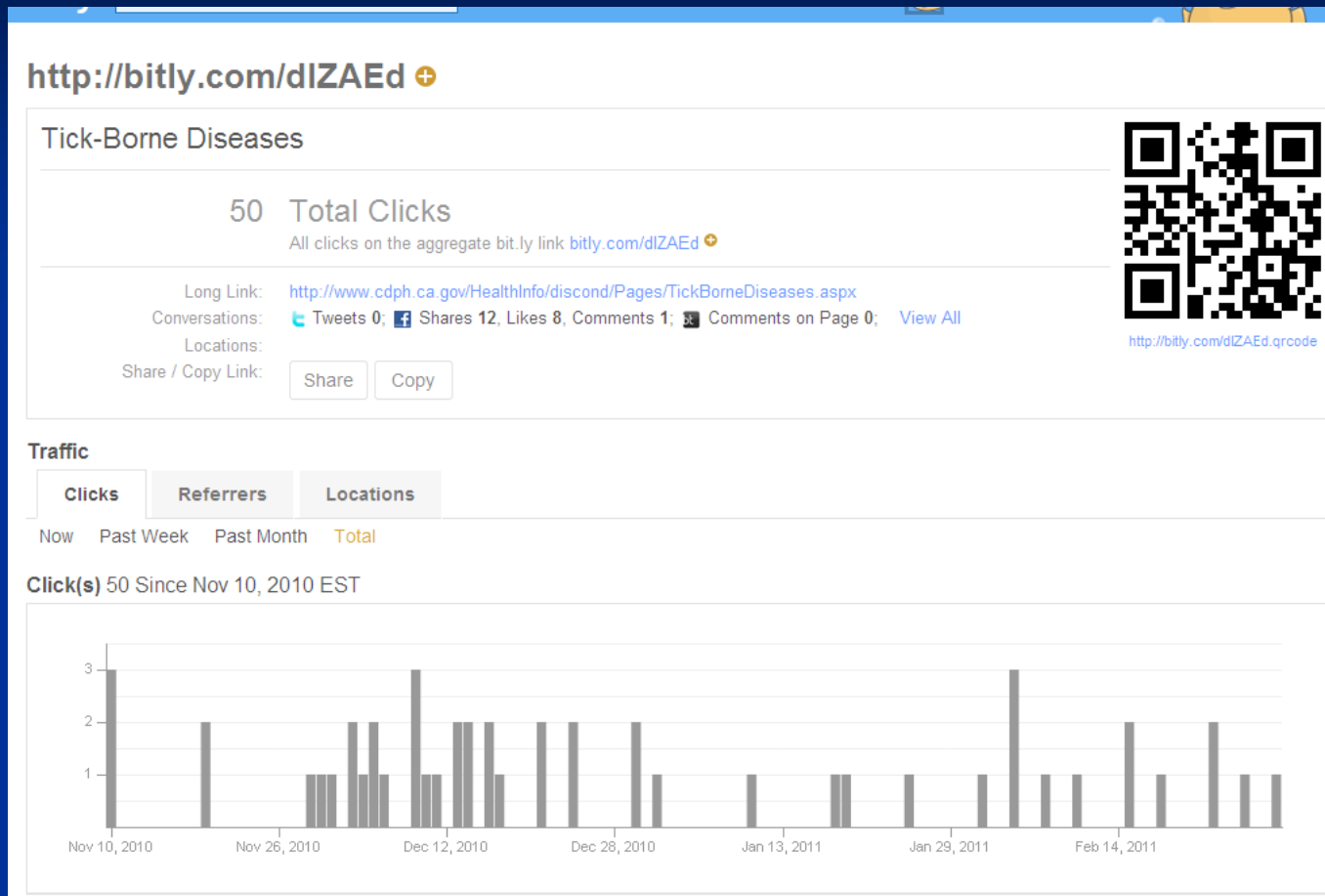
4:42 PM Feb 16th via SocialOomph

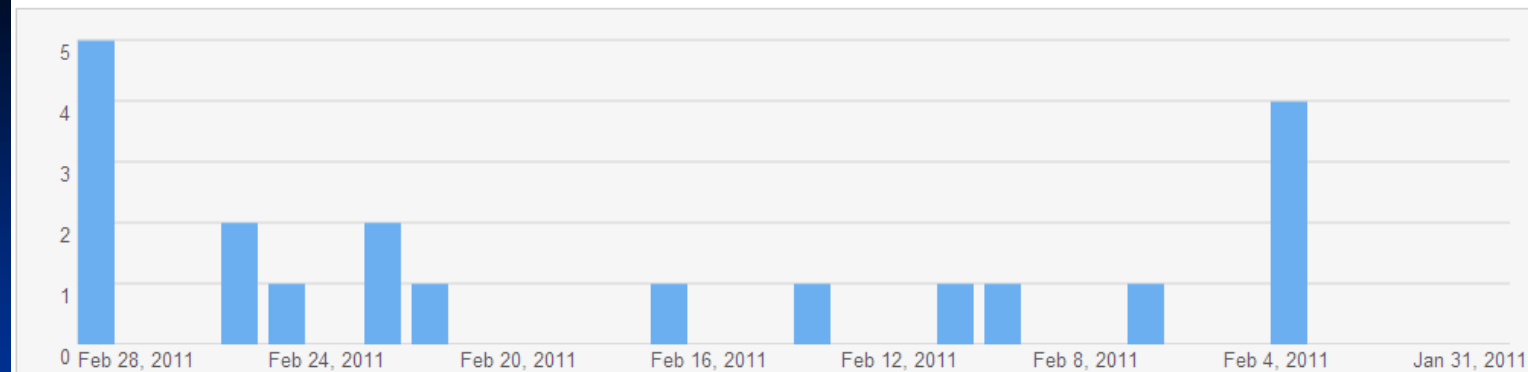
check
me 4
ticks!

Re-tweets!

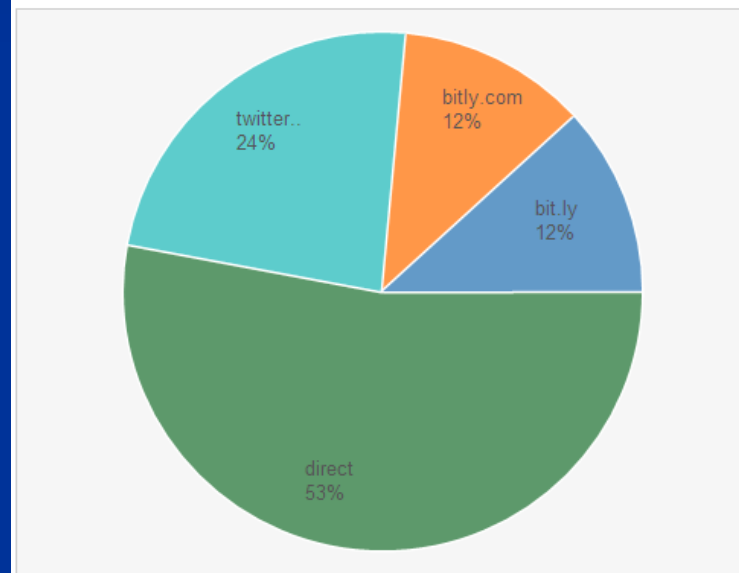


Bit.ly link monitoring





Referrers Detail



Referring Site

Click(s)

Email Clients, IM, AIR Apps, and Direct

9

twitter.com

4

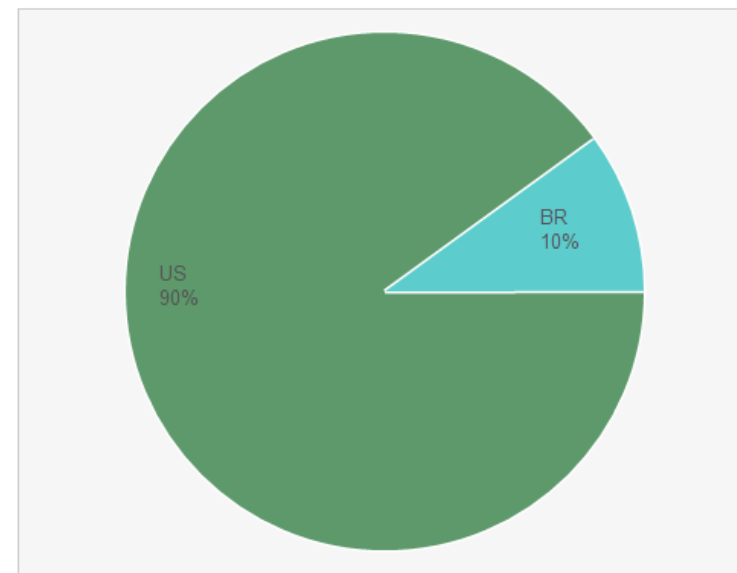
bitly.com

2

bit.ly

2

Locations Detail: 2 Countries



Country

Click(s)

United States (US)

18

Brazil (BR)

2

Ticks in the News



Link between Sudden Oak Death/Lyme disease article had state-wide coverage and highlighted Lyme disease as health concern in California.



Education Activities Nov 2010 – Mar 2011

General Public

Tick-Bite Prevention PSA Contest

Effort led by


Claudia Erickson, MS, CHES



Education Activities Nov 2010 – Mar 2011

General Public

Launched February 11, 2011



**Enter Your Original Tick-Bite Prevention
Public Service Announcement (PSA) Video to Win a Cash Prize**

The California Department of Public Health (CDPH) and the DEET Education Program are sponsoring a video public service announcement (PSA) contest to help kids and adults understand how to prevent tick-bites.


There are two age categories for the Video PSA:

- 1) 17 and younger
- 2) 18 and older


The first place winner in both categories will receive \$350 and an award certificate. The winning videos may be featured on broadcast TV and/or radio and on government and partner websites and will remain available on YouTube. The winners may be invited to press events and/or asked to appear in future contest promotional videos. Other awards certificates will be issued for winners receiving second or third place or honorable mention.

Questions?

Contestants should not send direct messages over YouTube. If you have any questions or need more information, please call **1-888-NO-BITES** or email your question using the form on the CONTACT page on www.DEETonline.org



© 2011 All Rights Reserved
California Department of Public Health
& DEET Education Program



- Sponsored by the DEET Education Program (THANKS!)
- Contest website hosted by DEETonline.org
- Many hits to the page already

TB Prevention PSA Contest Promotion

Launch Flyer

Visit <http://deetonline.org/CDPHvideocontest/> for Contest Details & Entry Form
<http://deetonline.org/CDPHvideocontest/>

Tick-bite Prevention Video PSA Contest

To help people understand
how to prevent tick-bites

Two \$350 Prize Categories
17 years and younger and 18 years and older

Create a 30 or 60 second video promoting one or more of the following:

1. How to protect yourself and your pets from getting tick bites
2. How to do a tick check
3. How to safely remove an attached tick

Questions? Contact Claudia at
claudia.erickson@cdph.ca.gov

Sponsored by

DEET
EDUCATION
PROGRAM

CDPH
California Department of
Public Health

The flyer features several illustrations of red ticks. One is at the top left, another below it, and a third at the bottom left. On the right side, there is a larger illustration of a tick on a green leaf. Another tick is shown on the right side, near the bottom.

TB Prevention PSA Contest Promotion

- LHD, VCD and government agencies
 - Email distribution lists
 - CCLHO
 - MVCAC News and MVCAC News Briefs
- Website Postings
 - Carousel on CDPH.CA.Gov
 - CDPH Facebook & Twitter posting
 - CDPH Tick-borne disease page
 - Teacher's page
 - Stuff for Kids page
 - CalSurv
 - CALDA
 - Lake County Vector
 - California Science Teacher's Association



TB Prevention PSA contest Promotion

- Professional organizations

- Northern Chapter of SOPHE



- Education

- CA Community Colleges Chancellor's Office
- CSU Email list
- CA Department of Education School nurses listserv
- Private schools with Art Programs
- CA Institute of the Arts
- Art Center College of Design
- RAFT (Resource area for teaching) Sac State University, Public Health
- UC Art School Programs
- Sacramento State Public Health Club
- San José State University: Health Communication & Technology (HS158)
- Personal connections- local high schools



TB Prevention PSA contest

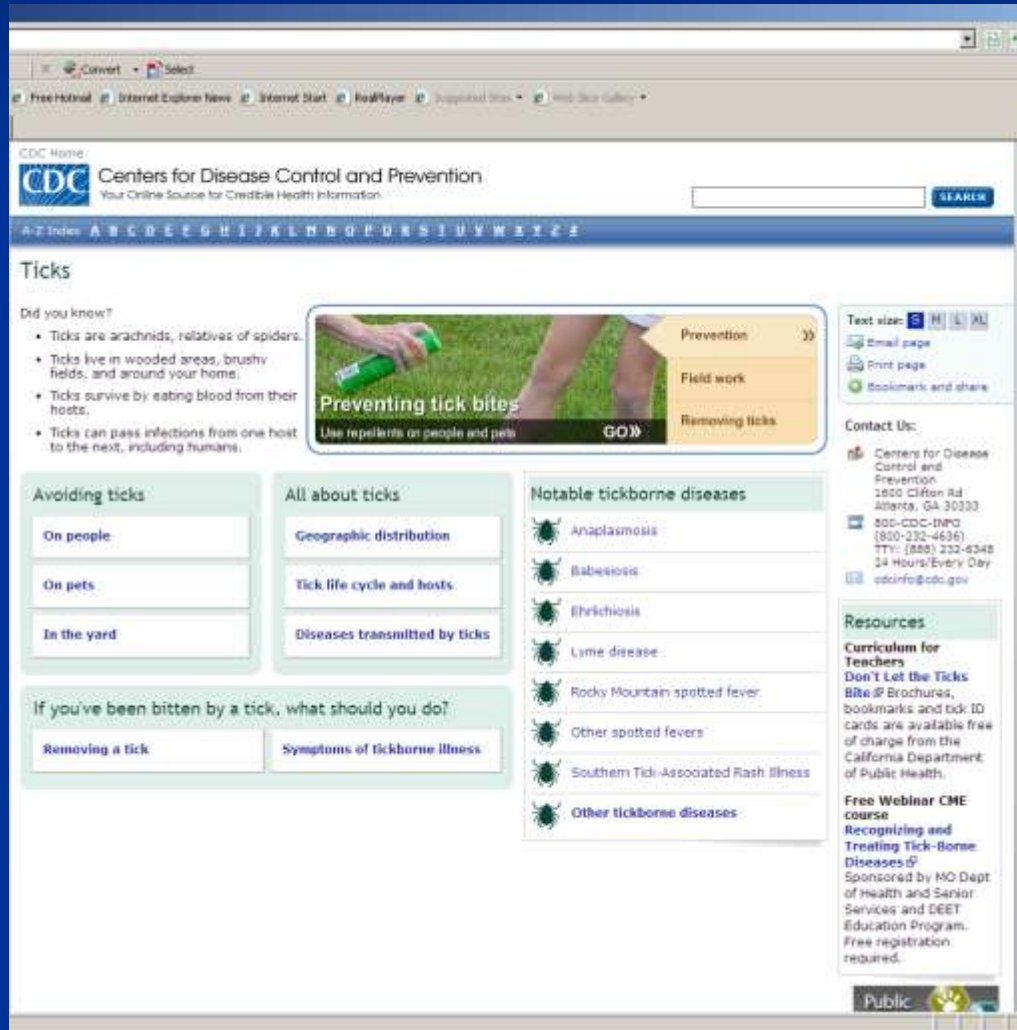
Promotion

- Community Groups
 - Girl and Boy Scouts throughout CA
 - Boys and Girls Club
- Active promoters
 - Bill O'Rullian, Solid Waste Program Supervisor, Kern County Environmental Health - circulating to friends at local outdoor businesses (e.g. river rafting companies, camera shops, camping supply outlets), the Southern Sierra Council of Boy Scouts and Girl Scout Council in Kern, Art, Communications and Media students and graduates in Kern County.
- YOU!



Education Activities Nov 2010 – Mar 2011

School Children



•Promotion by:

- CDC (National distribution!)
- CA Science Teacher Assn. (CSTA)



Requests from:

Health Care Facility, NY

University of NC, Botanical Garden

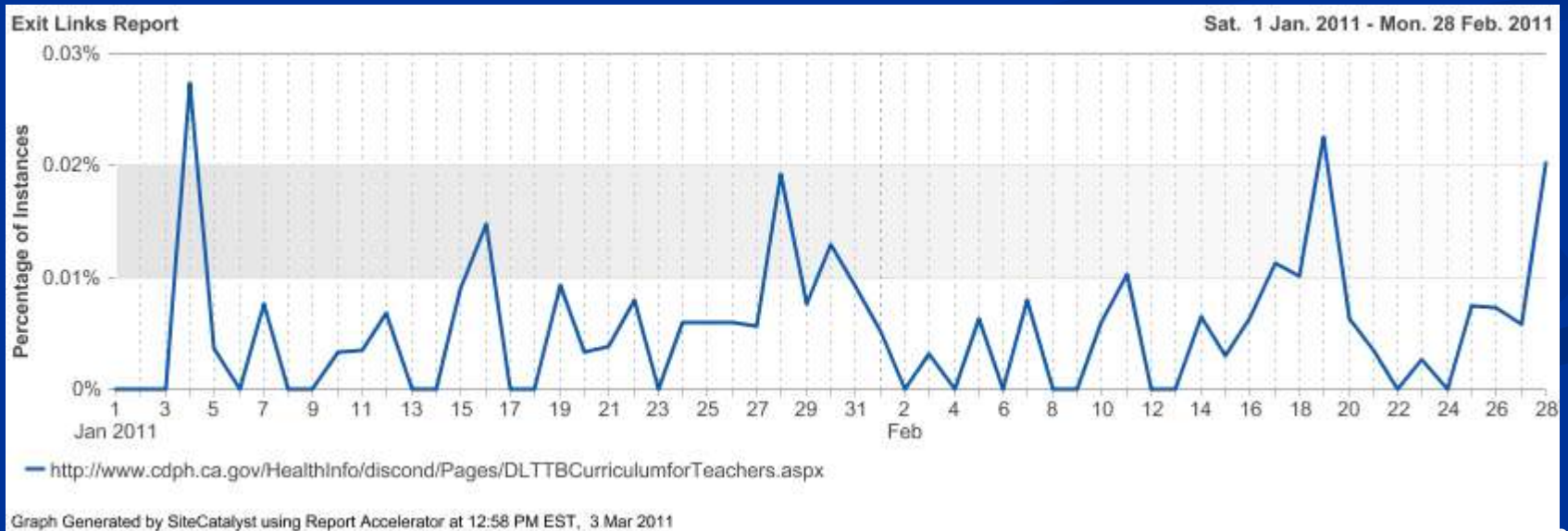
Arbor Day Commission, NC

Education Activities Nov 2010 – Mar 2011

School Children



85 hits to our materials
through CDC!



Education Activities Nov 2010 – Mar 2011

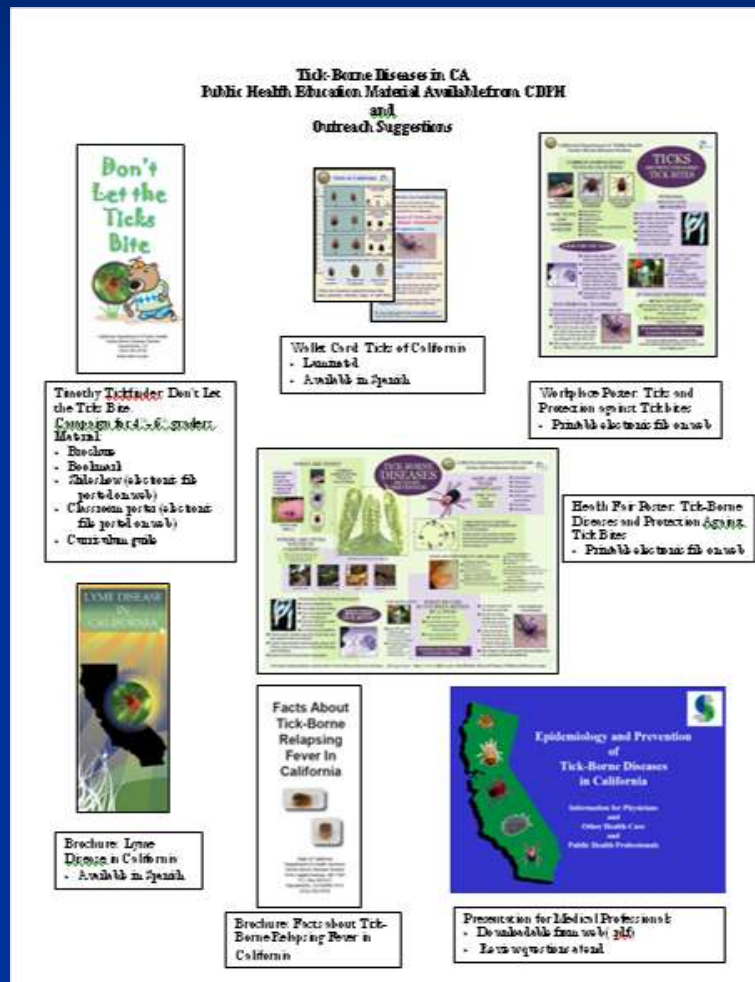
Medical Outreach



- *Lyme Disease Epidemiology in California* Presentation Information shared with Los Angeles County Public Health Department for local Grand Rounds presentation by local public health officials.
- Lyme disease brochures sent to physician offices per request (~4 requests/month)
- *Zoonotic Babesia* presentation to Master's of Preventive Veterinary Medicine students, UCD
- Tick-borne disease outbreak exercise with Global Health masters students, UCSF

Education Activities Nov 2010 – Mar 2011

Local Agency



- Catalog of available materials and ideas for implementation distributed to local MVCAC agencies February 2011
- Fall tick-season information availability highlighted on local agency-wide conference call
- Tick-cards to US Forest Service, Oregon
- Mailing of material by request to local Vector Control Agencies, Public and Environmental Health Departments, Forest Service, Park Service, National, State, and Regional Parks
- Encouraging use of printer-ready files

Presentations 2010

- **Ticks and Rocky Mountain Spotted Fever in California**
 - *Renjie Hu*: MVCAC Southern Regional Continuing Education Workshop, Anaheim
- **An Update on Tick-Borne Spotted Fever Group Rickettsiae in Southern California**
 - *Renjie Hu*: 78th Annual Conference of the MVCAC, Sacramento
- **Tick-Borne Spotted Fever Group Rickettsiae in California: Prevalence, Distribution and Public Health Impact**
 - *Renjie Hu*: The Third International Forum for Sustainable Management of Disease Vectors, Hangzhou, China
- **Detection of Tick-Borne Spotted Fever Group Rickettsiae in Southern California**
 - *Renjie Hu*: National Institute of Parasitic Diseases, Chinese Centers for Disease Control and Prevention, Shanghai, China
- **Tick-borne Spotted Fever Group Rickettsia Surveillance in California Ticks from Mexican Border to Oregon**
 - *Kerry Padgett, Marty Castro, Denise Bonilla, Curtis Fritz & Renjie Hu*: 78th Annual Conference of the MVCAC, Sacramento

Presentations 2010

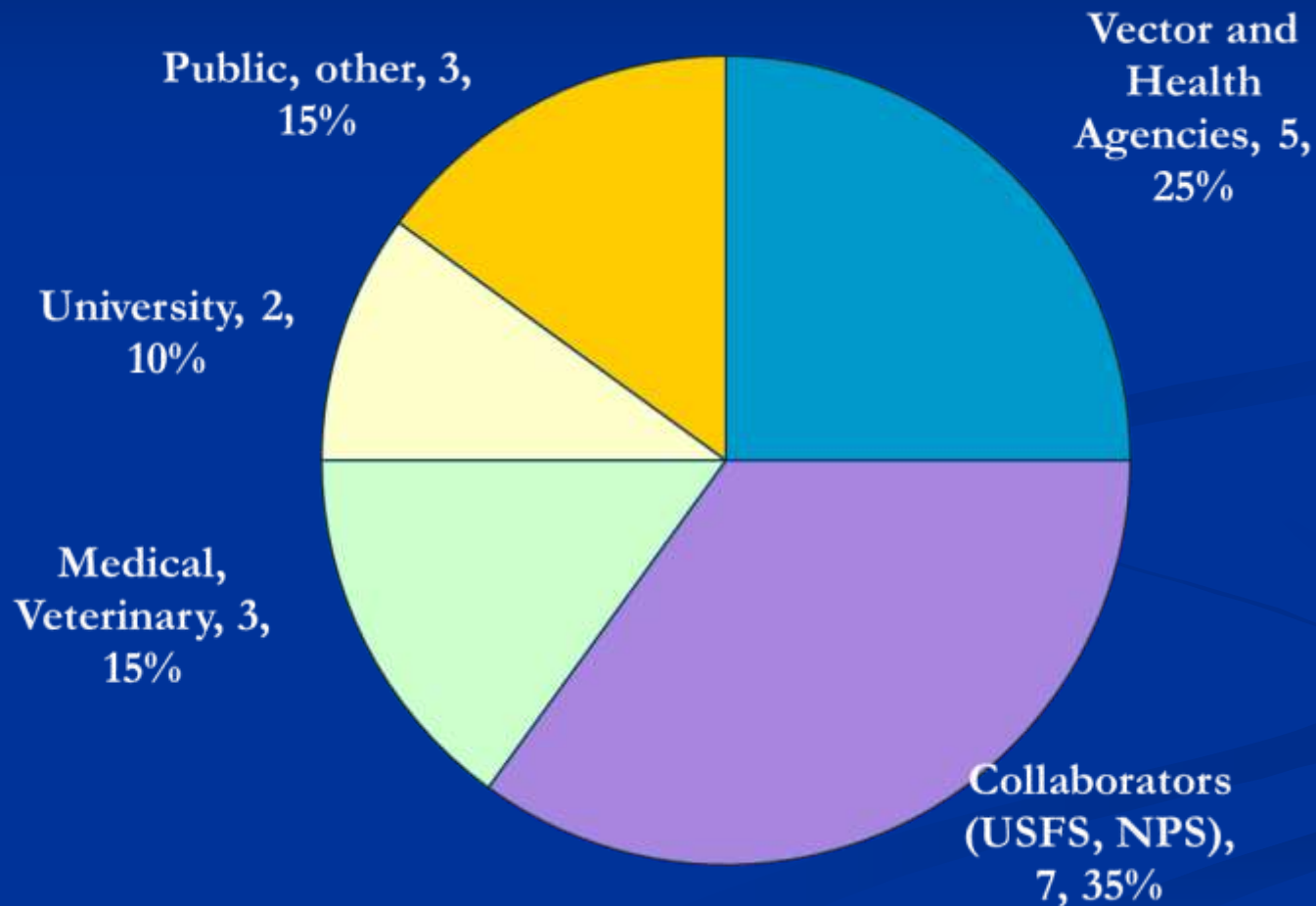
- **Epidemiology and Prevention of West Nile virus and Lyme disease in California**
 - *Anne Kjemtrup* Epidemiology & Control of Infectious Diseases, UCB PH253B
- **Surveillance for Lyme Disease in California With Emphasis on the Laboratory Role**
 - *Anne Kjemtrup* California Association for Medical Laboratory Technology, East Bay, Continuing Education Symposium, Berkeley, CA
- **Zoonotic Babesia**
 - *Anne Kjemtrup* Epidemiology of Zoonoses class, PHR 212 University of California, Davis
- **Surveillance of Vector-Borne Diseases in California.**
 - *Anne Kjemtrup* Principles of Epidemiology Course EPM 405, University of California, Davis
- **Public Health Surveillance: Conveying Numbers with Meaning**
 - *Anne Kjemtrup* Mosquito and Vector Control Association 78th Annual Meeting, Sacramento
- **Public Health Surveillance: Idealism versus Realism**
 - *Anne Kjemtrup* Topics in Public Health Seminar , University of California, Davis (SPH 290)

Presentations 2010

- **Vector-Borne Diseases of Concern in Camp Wolfeboro**
 - *Michael Niemela*: Boy Scouts of America Staff Training, Camp Wolfeboro, Stanislaus National Forest
- **Vector-Borne Diseases of Concern in Yosemite N.P.**
 - *Michael Niemela*: Staff Training, El Portal
- **Overlooked Vector-Borne Diseases**
 - *Michael Niemela*: Stanislaus County West Nile Task Force Meeting, Modesto
- **Vector-Borne Diseases in Tahoe National Forest**
 - *Joshua Ogawa*: Sierraville Ranger District Safety Meeting, Tahoe National Forest, Sierraville
- **Vector-Borne Diseases in Tahoe National Forest**
 - *Joshua Ogawa*: Truckee Ranger District Safety Meeting, Tahoe National Forest, Truckee

Education Activities 2010

Presentation Target Audience Summary



Projects for 2011

■ General Public

- Tick-Bite prevention PSA Contest
 - Promote, judge, distribute
- Continue Facebook, Twitter posts

■ Occupational Health

- Revise/update tick-bite awareness prevention sheet
- Develop on-line PowerPoint “Safety Talks” that can be down loaded.

■ Medical Community

- Continue providing material, lectures as requested



Surveillance



Tick-Borne Disease Program

- Regular surveillance for *Borrelia burgdorferi* in western blacklegged ticks throughout California
- In house laboratory tick testing for *Borrelia*
- Human case follow-up tick surveillance for other tick-borne diseases
- Maintain statewide tick database
- Special projects
- Tick-borne disease education

VBDS Tick-Borne Disease Program

Current Goals/ Projects

- *Borrelia burgdorferi* surveillance in *Ixodes pacificus* statewide, with emphasis on those regions where *B.b.* prevalence data is lacking and/ or where there is a high incidence of LD in people
 - VBDS conducts in-house testing
- Investigate re-emerging tick-borne diseases
 - Colorado Tick Fever
 - Tularemia
 - RMSF
- Consult and collaborate with other agencies and institutions including local MVCD, HD, EnvH, universities, USFS, NPS, and recently Ibis Bioscience

Surveillance Activities 2010

Borrelia burgdorferi

Collected:

760 *I. pacificus* adults

338 *I. pacificus* nymphs



DFA (*Borrelia*) tested to date:

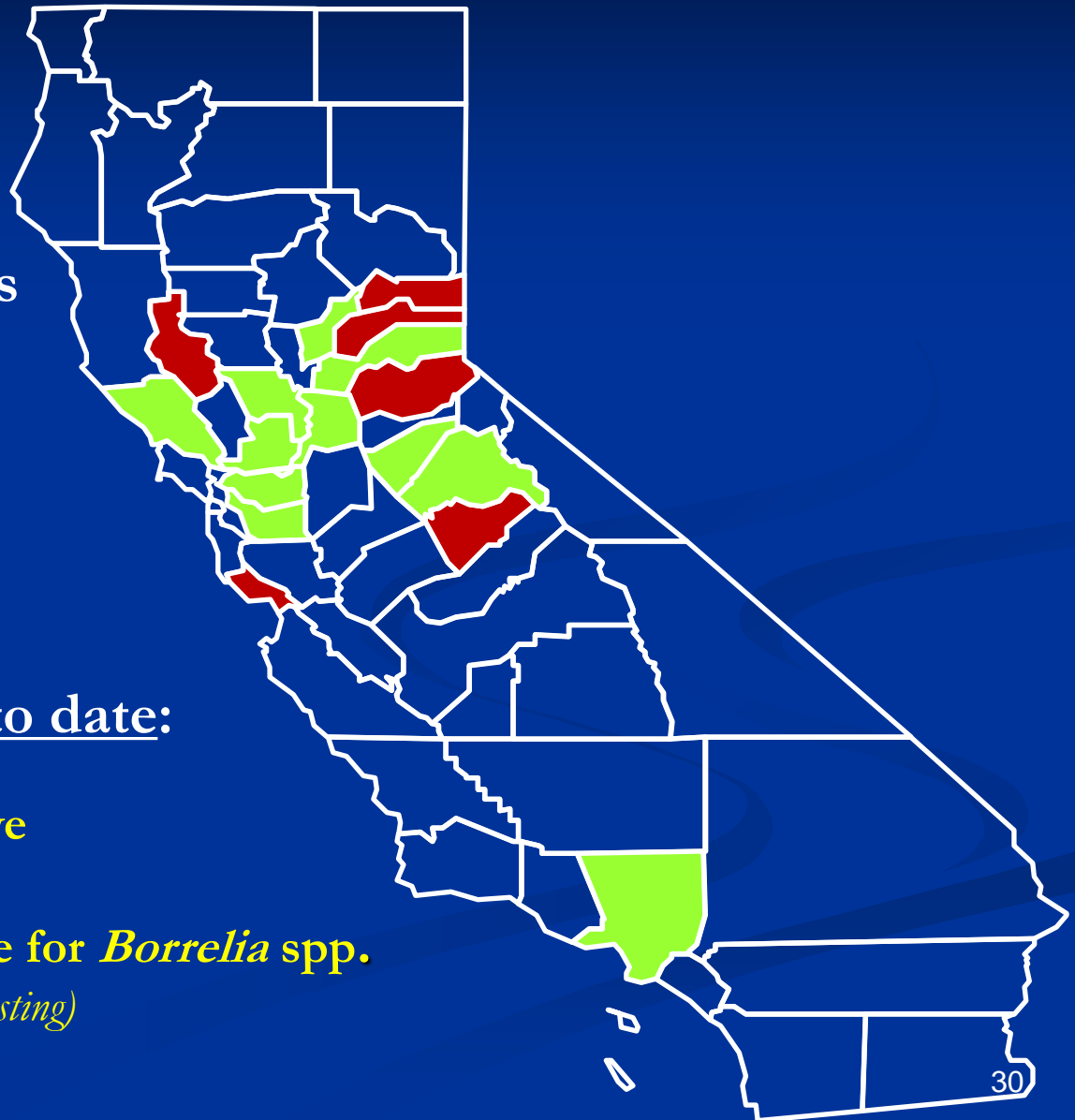


Ticks tested negative



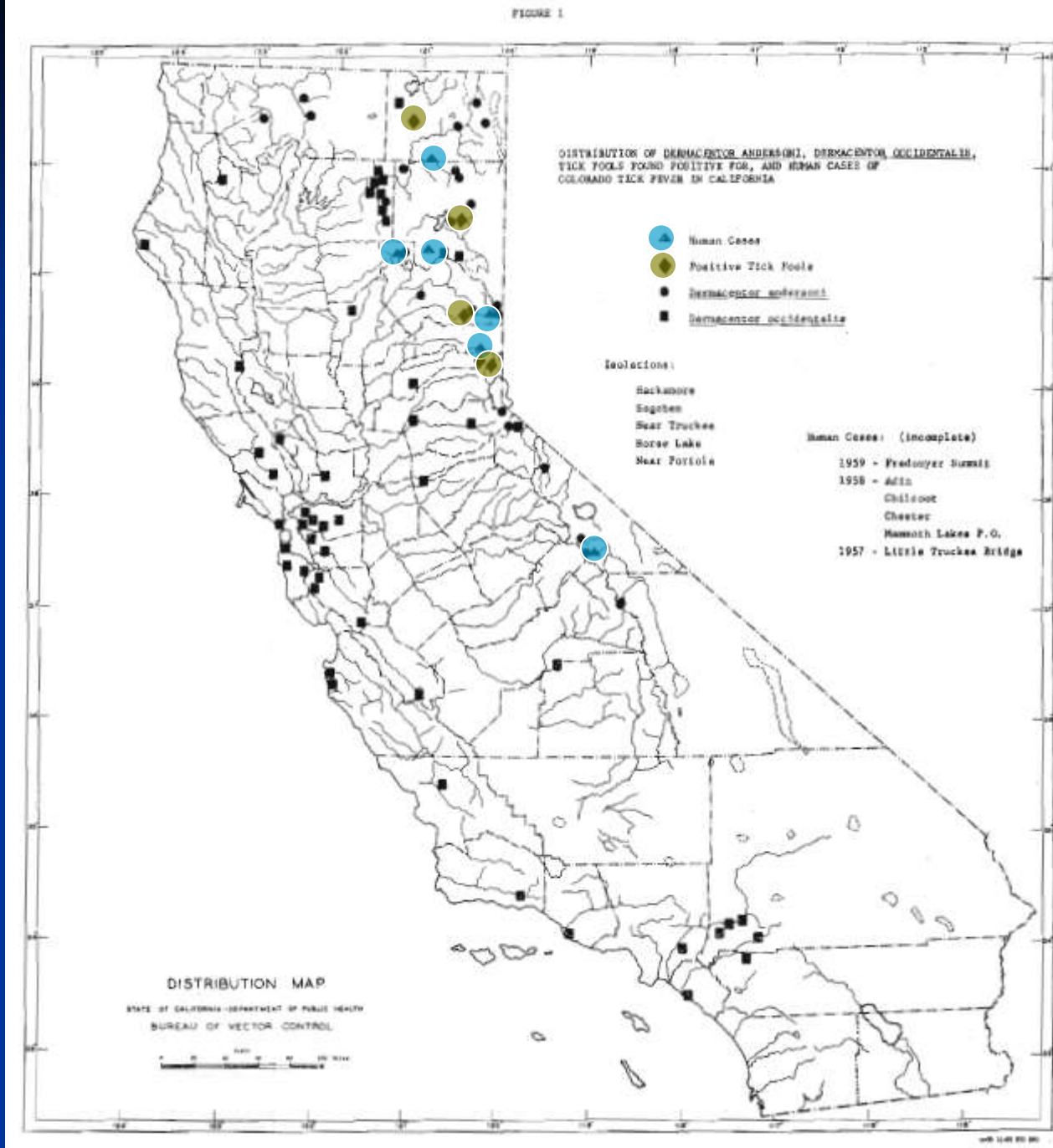
Ticks tested positive for *Borrelia* spp.

(will follow up with PCR testing)

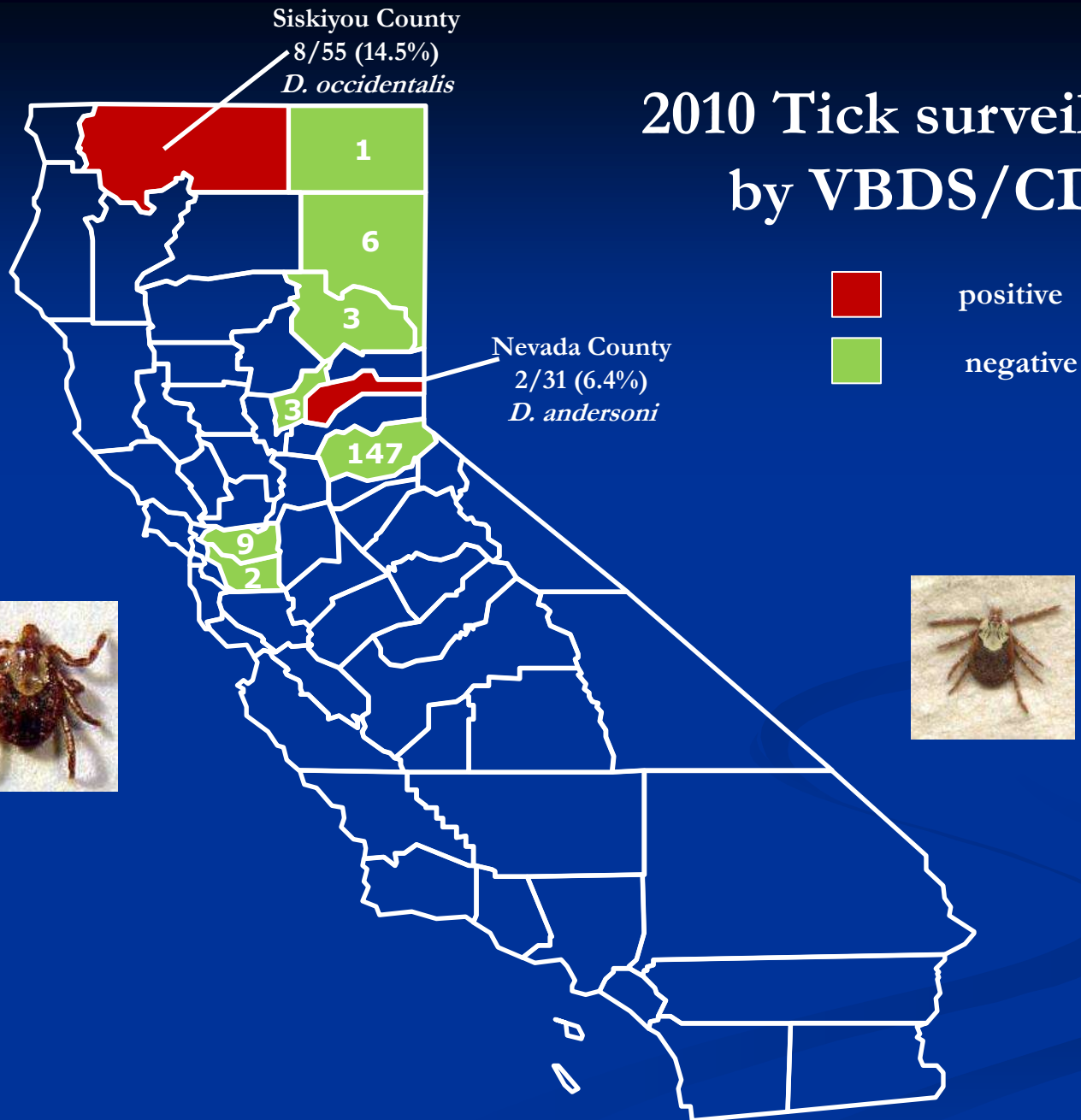


Forgotten but not gone: Colorado Tick Fever

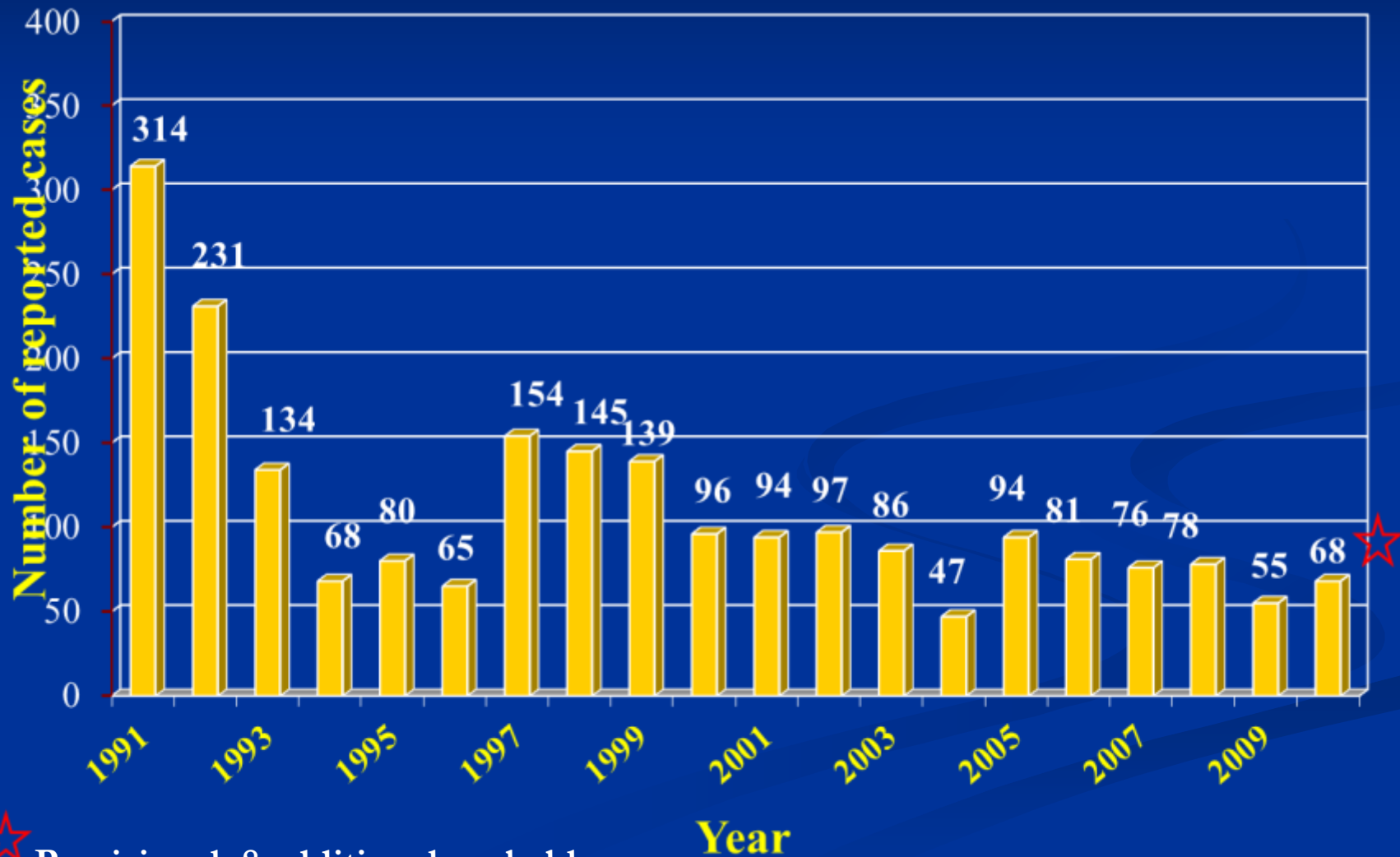
Historic detection
of CTF, CA, 1959
(Murray-Barnes,
Bureau Vector
Control Report)

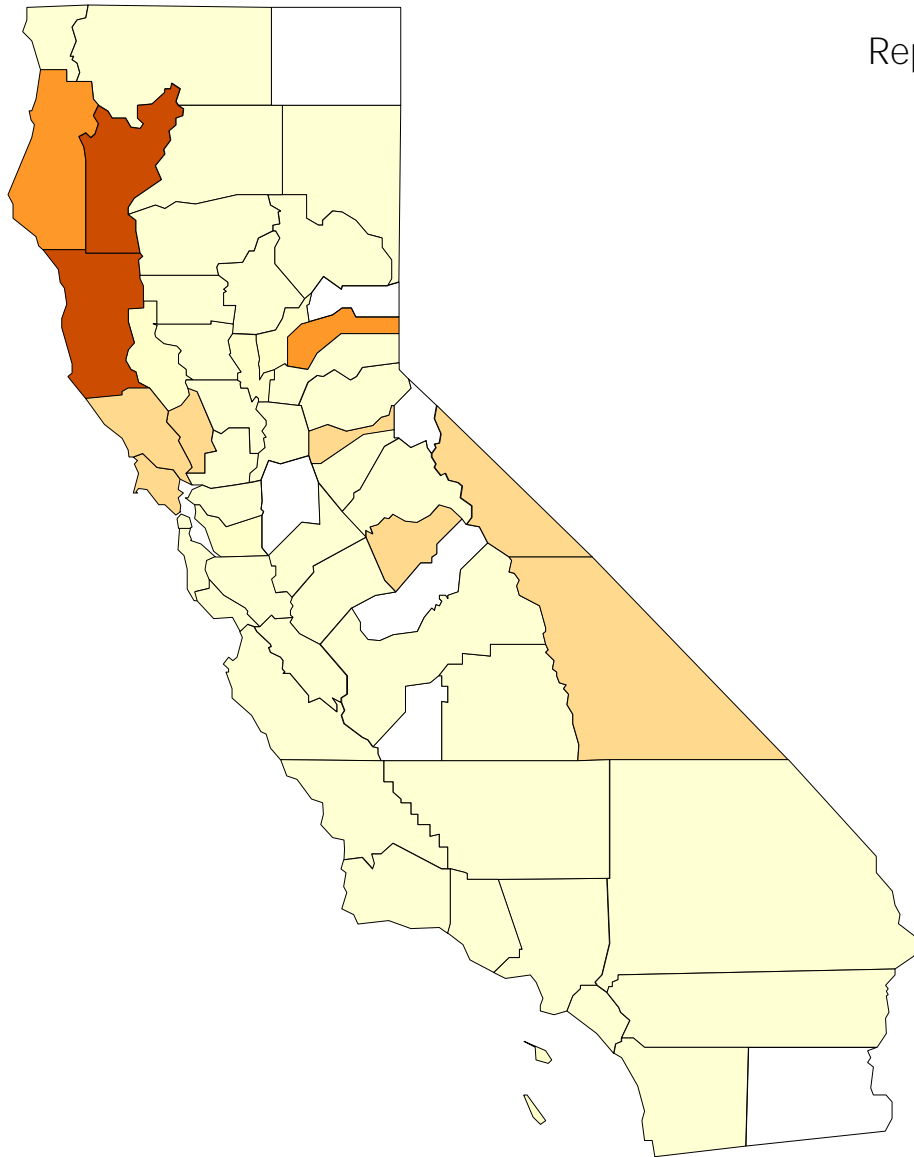


2010 Tick surveillance by VBDS/CDC



Reported Confirmed Lyme Disease Cases California, 1991-2010



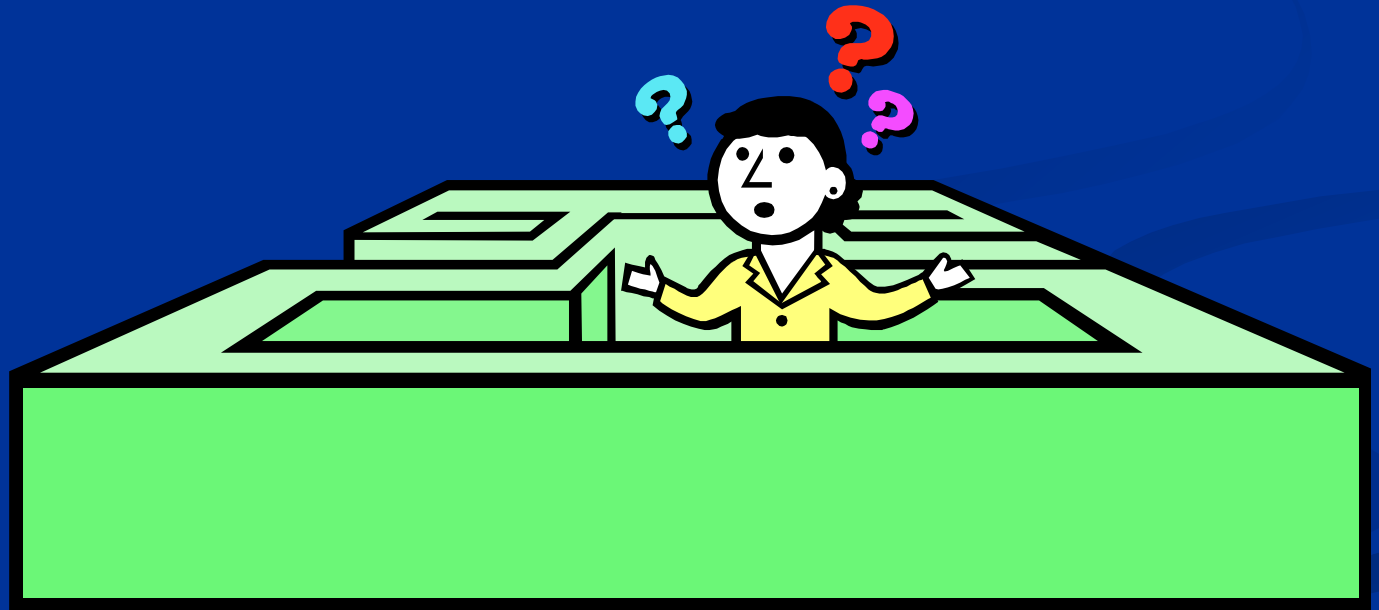


Reported cases per 100,000 person-years, 2000 - 2009

Trinity	7.9	
Mendocino	5.9	> 5
Humboldt	4.8	
Nevada	3.4	≥ 3
Mono	2.9	
Santa Cruz	1.6	
Sonoma	1.5	
Mariposa	1.1	
Inyo	1.1	
Marin	1.1	
Amador	1.1	
Napa	1.1	≥ 1
Others		> 0

Reporting Issues

- Why do CDPH and CDC reported numbers not match? (e.g. CDPH reported 55 cases, CDC website shows 117).
- What about differentiating between confirmed and probable cases?



Notifiable Disease Surveillance: Route of Information

Reporting mandated by state law
(Title 17 CCR)



Health care providers, laboratories,
others, report to local health
department (LHD)



LHD submits reports to CDPH



Reports transmitted to Centers for
Disease Control and Prevention
(CDC)

Notifiable Disease Surveillance: Route of Information

Reporting mandated by state law
(Title 17 CCR)



Health care providers, laboratories, others, report
Confidential Morbidity Report (CMR) to local
health department (LHD)

LHD receives **CMR**, gets provider to complete case
history, evaluates case history, reports result to CDPH



CDPH evaluates case history, matches with already- submitted
CMR, result conveyed to CDC. If does not match surveillance
definition, both CMR and case history pulled from CDC.



But, if no case history submitted, **CMR** not matched
so **CMR** remains in CDC system as “case”.

Case definitions: Confirmed, Probable, Suspect

- Suspect case information retained at LHD
- Both confirmed and probable reported to CDC
- Problem: technical issue with CA reporting such that confirmed and probable are not differentiated at CDC (all count as confirmed).
- CDPH has capability of differentiating confirmed and probable for 2010 data.

Lyme Disease Case Reporting Issues: Summary

- Higher number reported at CDC (117 vs. 55) include CMRs that have not been evaluated.
 - CDPH numbers reflect confirmed only
- Greater discrepancy 2009 may be unique problem: LHDs overwhelmed with H1N1 reporting and did not have resources to follow up with LD-CMR before year-end close.
- Work on-going to understand/correct reporting problem differentiating confirmed and probable

Acknowledgements

